REMARKS

Claims 1-13, 15-17, 19-45, and 50-63 are pending in the application. Claims 14 and 18 have been currently canceled, and claims 46-49 were previously canceled. Claims 2-5, 7-9, 13, and 25 were withdrawn from consideration. New claims 59-63 have been currently added. Support for the new claims and for amendments to the claims may be found in the original claims and in the specification on page 8, lines 4-7.

Applicants confirm the election of the particle species of alumina and the resin species of an acrylic polymer.

Claim 33 was rejected under 35 U. S. C. §112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 33 is allegedly confusing because it does not say what has a weight percent greater than 5. The claim has been amended to clearly indicate that the weight percent of the particles is greater than 5. Reconsideration and withdrawal of the rejection in light of the amendment are respectfully requested.

Claims 1, 6, 10, 15, 18, 19, 21-24, 30, 33-40, and 50 were rejected under 35 U. S. C. §102(b) as allegedly being anticipated by Inagaki. Inagaki is cited as allegedly disclosing a liquid coating composition comprising an acrylic resin and 17 weight percent alumina, possessing a variety of elements and exhibiting numerous properties. Applicants respectfully submit that the rejection has been overcome by the present amendment. The claims currently recite a powder coating composition. The Inagaki reference does not teach or suggest a powder coating composition at all.

Claims 1, 6, 11, 12, 14-24, 26-32, 34-41, 45, and 50-58 were rejected under 35 U. S. C. §103(a) as allegedly being unpatentable over Christie. The Examiner asserts that Christie is cited as allegedly disclosing powder and liquid acrylic coatings comprising 0.05-5 weight percent calcined unground alumina, calcined ground alumina, or tabular alumina, showing a variety of particle diameters as small as 0.5 microns, and a mixture of an acrylic resin and a curing agent. The Office Action that the reference differs from the present claims by not specifying that the

resin and abrasive filler are similar in refractive index. The Office Action concludes, however, that it would have been obvious to one skilled in the art not to include the soft filler in Christie, who discloses excluding the filler, suggesting that then the abrasive filler would be similar in refractive index and the coating could be used as a clear coat.

Applicants respectfully disagree with the conclusion regarding the reference with respect to claims 1, 6, 11, 12, 14-24, 26-32, 34-41, 45, and 50-58. Even if one were to remove the soft filler from the composition of Christie, one would not arrive at the present invention. Christie does not teach or suggest a powder composition of the type presently claimed, wherein the difference between the refractive index of the resin and the refractive index of the particles is less than one. In the composition of the present invention, the resin and particles are carefully selected such that the difference in the respective indices of refraction is minimal; i. e., less than 1. This is in order to minimize haziness of the applied coating, a significant property of such coatings. Christie does not recognize the importance or possibility of minimizing haze (maximizing clarity) of a coating composition while also improving the mar resistance thereof, and therefore does not appreciate the performance and appearance of the coating compositions presently claimed. Therefore, one skilled in the art would not assume that the composition of Christie would inherently, or could be modified, to possess the properties of the present invention.

Regarding claims 12, 21, 51-52, and 55-56, Christie teaches the use of particle sizes of at least 3 microns; in fact, at Christie, column 3, lines 51-56 and at column 3, line 66 to column 4, line 5, the reference teaches away from smaller particle sizes, because of a loss of abrasion resistance properties. Therefore, it would not have been obvious to one skilled in the art to use a particle size less than three microns as recited in the above noted claims.

Regarding present claims 34-38, drawn to substrates coated with the compositions of the present invention, Christie does not teach or suggest the powder coating composition of the present invention for reasons discussed above. It follows that the reference does not teach or suggest a substrate coated with the composition of the present invention.

Regarding present claims 39-40, drawn to methods of improving mar resistance of a substrate using the compositions of the present invention, again, Christie does not teach or suggest the powder coating compositions of the present invention. Therefore, the reference does not teach or suggest a method of improving the mar resistance of a substrate using the composition of the present invention.

Regarding present claim 41, drawn to methods for preparing a powder coating comprising the step of extruding together a film-forming resin and a plurality of particles, Christie mentions extrusion only in Example 6, where a method of extruding a resin, curing agent, flow agent, and titanium dioxide is taught. Calcined, ground alumina is *post-added* to the ground extrudate and dry blended. There is no teaching or suggestion in the reference of co-extruding a film-forming resin with mar resistant particles as recited in the present claim. Several disadvantages may occur by post-adding particles as in Christie, which are overcome by the method recited in present claim 41. Powder coatings are typically applied to a substrate via electrostatic means. The powder is passed through an electric field; individual particles become charged and then deposit onto the substrate based on their resultant charges. If particles are post-added to a powder resin, the product may not be homogeneous in which case several things will occur. The two different particles (resin and filler) will have different transfer efficiencies due to different charge densities. Upon reclamation/recycling of the powder (powder is typically reclaimed and resprayed) there will be an enrichment of one of the ingredients in the composition and the original ratio of ingredients in the composition will be lost, resulting in inconsistent appearance. Also, the different particles will migrate to different areas of the substrate, concentrating in electrostatic domains. Color and other appearance properties may not be uniform. This difference becomes more pronounced the further away the application spray gun is from the substrate.

In contrast, in the methods of claim 41 the present invention, the resin and mar resistant particles are extruded together, promoting homogeneity with respect to particle concentration throughout the composition, and uniform charge density and distribution throughout the powder coating composition. This allows for a more

uniform appearance of the applied coating composition. For these same reasons, newly added claims 59 – 63 are also allowable over the art record.

Reconsideration and withdrawal of the rejection are respectfully requested.

Claims 42-44 were rejected under 35 U. S. C. §102(b) as anticipated by, or in the alternative, under 35 U. S. C. §103(a) as obvious over the reference to Sumitome Chem. The Office Action asserts that the reference discloses a cured, powdery coating comprising an acrylic polymer and alumina, suggesting that when a reference discloses all of the limitations of a claim except for a property, the burden of proof is shifted to the Applicant.

Applicants respectfully submit that the rejection has been overcome by the present amendment. Claims 42 – 44 currently recite a cured powder coating comprising a film-forming resin having a plurality of particles with an average particle size between 1 and 15 microns dispersed therein, wherein the particles have a hardness sufficient to impart greater mar and/or scratch resistance as compared to no particle being present, wherein the cured powder coating undergoes less than 10 percent gloss reduction after 500 hours of QUV exposure, and wherein the difference between the refractive index of the resin and the refractive index of the particles is less than one. The Sumitome reference does not teach or suggest a powder coating composition as presently recited in the claims. There is no teaching or suggestion in the reference of the particle size range presently recited, of greater mar resistance being imparted by the particles, nor of the relationship between the refractive indices of the resin and the particles. Moreover, the Sumitome reference is directed towards coating compositions applied to porcelain substrates (e. g., wash basins). One skilled in the art would not expect the Sumitome compositions to exhibit less than 10 percent gloss reduction after 500 hours of QUV exposure, because such a composition would not be required to possess UV resistance, given the substrates to which they are applied. Reconsideration and withdrawal of the rejection are respectfully requested.

CONCLUSION

For the reasons given above, it is respectfully submitted that the present amendment overcomes all of the prior art of record. A Notice of Allowance is respectfully requested at an early date.

Respectfully submitted,

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